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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,473	06/28/2001	Hidekazu Watanabe	80398P481	5941
8791	7590	03/08/2005	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			TRAN, ELLEN C	
			ART UNIT	PAPER NUMBER
			2134	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,473

Applicant(s)

WATANABE, HIDEKAZU

Examiner

Ellen C Tran

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2001.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communication: original application filed 28 June 2001.
2. Claims 1-26 are currently pending in this application. Claims 1, 13, and 21 are independent claims.

Claim Rejections - 35 USC § 102

- 3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

4. **Claims 1, 2, 4-16, 18-26** are rejected under 35 U.S.C. 102(e) as being anticipated by Kawasaki et al. U.S. Patent Application Publication No. 2002/0010856 (hereinafter '856).

As to independent claim 1, A security access system for an integrated circuit (IC), comprising:" is taught in '856 page 1, paragraph 0012;

"an access code generator to generate a key code that allows access to secured portions of the IC through a debug module in the IC" is shown in '856 page 3, paragraphs 0043-0046, also see FIG. 2 for the key generator;

"and a security portal arranged to receive the key code from the access code generator, and allow access to the debug module if the key code matches a pre-stored code in the security portal" is disclosed in '856 page 1, paragraph 0016.

As to dependent claim 2, "wherein said access code generator includes a series of registers arranged to provide the key code" is taught in '856 page 3, paragraphs 0043-0046.

As to dependent claim 4, “wherein said security portal includes a key matching circuit to compare the key code entered by the access code generator with the pre-stored code in the security portal, where said key matching circuit generates an enable signal if the key code matches the pre-stored code” is taught in ‘856 pages 1-2, paragraph 0019.

As to dependent claim 5, “wherein said key matching circuit includes a comparator” is shown in ‘856 pages 1-2, paragraph 0019.

As to dependent claim 6, “further comprising: a debug command enabling element arranged to allow access to the debug module when the enable signal is received from the key matching circuit” is disclosed in ‘856 pages 2-3, paragraph 0041.

As to dependent claim 7, “wherein said debug command enabling element includes an AND gate” is taught in ‘856 pages 2-3, paragraph 0041.

As to dependent claim 8, “further comprising: a reset timer to provide a time window within which the key code from the access code generator is supplied to the key matching circuit, said reset timer de-asserting a key lock signal for a programmed time duration” is shown in ‘856 page 2, paragraph 0024.

As to dependent claim 9, “further comprising: a key unlocking element arranged to pass the key code generated by the access code generator while the key lock signal is de-asserted” is disclosed in ‘856 page 2, paragraph 0024.

As to dependent claim 10, “wherein said key unlocking element includes an AND gate” is taught in ‘856 pages 2-3, paragraph 0041.

As to dependent claim 11, “wherein said reset timer includes at least one flip-flop” is shown in ‘856 page 2, paragraph 0022.

As to dependent claim 12, “wherein said reset timer includes at least one register” is disclosed in ‘856 page 2, paragraph 0040.

As to independent claim 13, “An integrated circuit (IC) system, comprising: a debugging tool” is taught in ‘856 page 1, paragraph 0012;

“a processor; a plurality of peripheral devices coupled to said processor, said plurality of peripheral devices including secured portions, which may comprise secret codes or circuits; a debug module coupled to said processor, said debug module arranged to receive commands from the debugging tool and to send data according to said commands; an access code generator to generate a key code; and a security portal disposed between said debug module and said debugging tool, said security portal allows the commands from the debugging tool to pass to the debug module only when the key code from the access code generator matches an internally stored code in the security portal, such that said security portal operates to provide debugging tool with authorized access to said secured portions” is shown in ‘856 pages 2-3, paragraphs 0037-0046.

As to dependent claim 14, “further comprising: a bus connecting said plurality of peripheral devices and the processor, such that data communication is enabled among said plurality of devices and the processor” is disclosed in ‘856 page 2, paragraph 0038.

As to dependent claim 15, “wherein said plurality of peripheral devices includes memory devices having secret codes” is taught in ‘856 page 4, paragraphs 0067-0073.

As to dependent claim 16, “wherein said processor is a central processing unit (CPU)” is shown in ‘856 page 2, paragraph 0037.

As to dependent claims 18-20, these claims are substantially similar to claims 4, 8, and 9 above; therefore they are rejected along the same rationale.

As to independent claim 21, “A method for accessing secured portions of an integrated circuit (IC) through a debug module” is taught in ‘856 page 1, paragraph 0012;

“comprising: receiving a key code; determining if the received key code is correct; and unlocking and enabling access to the debug module if a match is made” is shown in ‘856 page 1, paragraph 0016.

As to dependent claim 22, “wherein said determining includes matching the received key code with a pre-stored code” is disclosed in ‘856 page 2-3, paragraphs 40-41.

As to dependent claim 23, “wherein said unlocking and enabling includes passing a debug command to the debug module” is taught in ‘856 page 2-3, paragraphs 40-41.

As to dependent claim 24, “further comprising: issuing a reset command to start a key unlock time window” is shown in ‘856 page 2-3, paragraphs 40-41.

As to dependent claim 25, “wherein said determining includes verifying that the received key code is correct, and that the key code is received within the key unlock time window” is disclosed in ‘856 page 2-3, paragraphs 40-41.

As to dependent claim 26, “further comprising: locking and disabling access to the debug module if a match is not made” is taught in ‘856 page 1, paragraph 0012 and page 2, paragraph 21.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over '206 in further view of Ober et al. U.S. Patent No. 6,708,273 (hereinafter '273).

As to dependent claim 3, the following is not taught in '856: **"wherein the key code is a sequence of binary digits"** however '273 teaches "Lastly, the CGX Command Processor is responsible for monitoring the security integrity of the CryptIC software and hardware resources ... Furthermore, there are several protection mechanisms to prevent key material leakage which require the CGX Command Processor to explicitly set hardware register bits enabling specific cryptographic service. This level of control is only permitted for the CGX Command Processor; thus preventing accidental or intentional access to areas of the security blocks not allowed" in col. 78 lines 45-58.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of '856 a method of accessing secured portions of an integrated circuit (IC) through a debug module to increase the security for digital communications on various integrated circuits. One of ordinary skill in the art would have been motivated to perform such a modification because various there are various types of integrated (see '273 col. 1 lines 32 et seq. Digital signal processors (DSPs) are widely used in devices such as modems, cellular telephones and facsimiles. With an increase in digital communication, data transmission security has become and issue in numerous DSP applications".

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As to dependent claim 17, "wherein said processor is a digital signal processor (DSP)" is taught in '273 col. 2, lines 48-53 "Since DSP's are the building block of many communication systems, a secured DSP with universal security features that may be selected by the manufacturer of the equipment in which the DSP forms part of would have far ranging benefits".

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ellen Tran
Patent Examiner
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3 March 2005



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